

(1) the Chen '363 reference does not teach a wiring board comprising an electrically insulating substrate having an exposed rough surface having a plurality of convexities nor an exposed wiring layer having the same surface shape as the exposed insulating substrate; and

(2) the Andou reference, the Chen '335 reference, and the Hayashi reference do not teach the surface of the insulating substrate having a plurality of convexities.

In responding to the Applicant's arguments, the Examiner asserted that the Chen '363 reference is used to show an interface condition between a wiring layer and an insulating substrate, and that it is inherent that all of the stated prior art references have some degree of surface roughness. Furthermore, the Examiner asserted that the Andou reference and the Hayashi reference each teach a transfer sheet brought into contact with an uncured insulating substrate. Because the entire surface of the insulating substrate is in contact with the transfer sheet, the insulating substrate inherently has a surface condition that is "complimentary to the surface condition of the wiring transfer sheet." However, despite these comments, it does not appear that the Examiner is directly responding to the Applicant's comments, and has not explained how the prior art references teach all of the features recited in independent claim 19. Specifically, the Examiner has not explained how the prior art references teach the limitation of independent claim 19 requiring that the surface shape of the exposed rough surface of the electrically insulating substrate is *substantially the same as the surface shape of the exposed rough surface of the wiring layer*.

In an effort to improve the Examiner's understanding of this feature of the present invention, an explanation of this feature will now be provided with reference to various portions of the present application. However, reference to any particular portions of the present application is not intended to otherwise limit the claims to any specific embodiments.

In order to properly understand all of the features recited in independent claim 19, it is necessary to consider at least one process by which the wiring board of claim 19 is formed. Specifically, as explained in paragraphs [0017]-[0019] and illustrated in Figures 5a-5c of the present application, a carrier base 501 is superposed on a wiring metal sheet 502 so that a surface of the wiring metal sheet 502 with convexities is pressed against a surface of the carrier base 501.

Consequently, concavities complementary to the convexities of the wiring metal sheet 502 are formed throughout the surface of the carrier base 501. Subsequently, a portion of the wiring metal sheet 502 is removed as illustrated in Figure 5c. In this case, the surface shape of the original wiring metal sheet 502 is substantially uniform, so that the surface shape of the removed portion of the wiring metal sheet 502 is substantially the same as the surface shape of the remaining portion of the wiring metal sheet 502. Moreover, the exposed surface of the carrier base 501 where the wiring metal sheet 502 was removed still has a surface shape that is complementary to the surface shape of the removed portion of wiring metal sheet 502. Therefore, when the carrier base (identified with reference number 101 in Figure 1) is subsequently pressed against the insulating substrate 104 so as to transfer the wiring layer to the insulating substrate 104 as illustrated in Figures 1c and 1d and explained in paragraph [0099] of the specification, the surface shape of the exposed rough surface of the electrically insulating substrate 104 is *substantially the same as the surface shape of the exposed rough surface of the wiring layer 103* (see Figure 1f).

The Andou reference teaches a circuit board, and the Examiner asserted that the Andou reference teaches that a support base 106 having a wiring layer 107 is pressed against an adhesive layer 101 so as to transfer the wiring layer 107 to the adhesive layer 101, as illustrated in Figures 1f and 1g. However, the Andou reference merely explains that the supporting base 106 has wiring layers 107 “obtained by forming copper foils in a predetermined shape” (see column 9, line 66 through column 10, line 1 of the Andou reference). In other words, the Andou reference does not teach or even suggest that the surface of the support base 106, including the exposed surface portion of the support base 106, has a rough surface that is entirely uniform or is entirely complementary to a surface of the wiring layer 107 contacting the covered portion of the support base 106. In this regard, the support base 106 may have a smooth surface except in those regions where the wiring layers 107 are located. Consequently, when the support base 106 is applied against the adhesive layer 101, it is not inherent that the exposed surface of the adhesive layer 101 (i.e., the electrically insulating substrate) will have a surface shape substantially the same as the surface shape of the exposed rough surface of the wiring layer 107. Consequently, despite

the Examiner's assertion that the adhesive layers 101 are part of the electrically insulating substrate 102, it is submitted that this reference does not teach or suggest that a surface shape of the exposed rough surface of the electrically insulating substrate is substantially the same as the surface shape of the exposed rough surface of the wiring layer.

The Hayashi reference teaches an electrical device mounting wiring board in which a wiring transfer film 5 has a wiring pattern 4 mounted thereon, and the wiring pattern 4 is transferred to an insulating sheet 1 by pressing the wiring transfer film 5 against the insulating sheet 1. In the outstanding Office Action, the Examiner asserted that a surface of the uncured insulating sheet 1 is complementary to a surface of the wiring transfer film 5. Assuming that the Examiner's assertion is correct, the Hayashi reference still does not teach or suggest that a surface shape of the exposed rough surface of the electrically insulating substrate is substantially the same as a surface shape of the exposed rough surface of the wiring layer. In particular, column 5, lines 35-38 of the Hayashi reference merely teaches that a transfer film 5 has a wiring layer 4 formed on a surface thereof. However, if the exposed surface of the wiring transfer film 5 is smooth as compared to the surface of the wiring pattern 4, then the exposed surface of the insulating sheet 1 pressed by the exposed surface of the wiring transfer film 5 will not have a surface shape that is substantially the same as the surface shape of the exposed rough surface of the wiring layer 4. Since the Hayashi reference does not disclose or suggest that the exposed surface of the wiring transfer film 5 is at all similar to the surface of the wiring pattern 4, it is submitted that the Hayashi reference does not teach or even suggest that the surface shape of the exposed rough surface of the electrically insulating substrate is substantially the same as the surface shape of the exposed rough surface of the wiring layer.

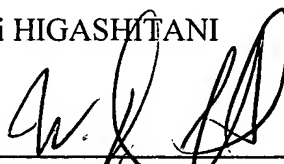
Both the Chen '335 reference and the Chen '363 reference also do not disclose or suggest a wiring board comprising an electrically insulating substrate and a wiring layer formed on a surface of the electrically insulating substrate, in which a surface shape of the exposed rough surface of the electrically insulating substrate is substantially the same as a surface shape of the exposed rough surface of the wiring layer. Therefore, because none of the references applied by the Examiner teach or even suggest this feature, one of ordinary skill in the art would not be

motivated to modify or combine the references in a manner to obtain the invention recited in independent claim 19. Accordingly, it is respectfully submitted that independent claim 19 and the claims that depend therefrom are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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